

The Montana Climate Change Action Plan

Don Potts, State Climatologist
Drought Advisory Committee Meeting
May 21, 2008

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Climate Change in Montana

Welcome to the Montana Climate Change website



*Richard Oppen, Director
Montana Department of
Environmental Quality*

Global climate change is affecting Montana now and will continue to do so into the future. The changes taking place in our beautiful Glacier National Park, pictured above, are becoming symbolic of what lies ahead. When Glacier was designated a national park 100 years ago, 150 glaciers glittered along its mountaintops. Only 27 remain today and they all may be gone by the year 2022, should current weather patterns continue. Perhaps more serious than the visual impact of melting glaciers are the deeper environmental and economic problems associated with a changing climate.

Climate change will affect all of Montana's major economic sectors: agriculture, forestry, transportation and tourism, and energy supply. We may be challenged with decreased crop yields, longer forest fire seasons, reduced snowpack, and declining hydropower. The environmental costs may include reduced wildlife habitat and diminished water quality and stream flow. It is imperative that we all begin to do what we can to address this crucial issue for our own sake and the sake of the

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Montana Climate Change Action Plan

**Final Report of the Governor's
Climate Change Advisory
Committee**

November 2007

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The Climate Change Advisory Committee

- A broad-based group of 18 Montana citizens
- Supported by a Science Advisory Committee
- Also Supported by Public and Private Sector Technical and Policy Specialists and MDEQ Staff
- Followed a process designed and implemented by the nonprofit Center for Climate Strategies
- MDEQ provided coordination and oversight

Members of the Montana Climate Change Advisory Committee

Peggy Beltrone, Cascade County Commissioner

Robert Boettcher, Organic Farmer

Mark Brandt, Teamsters Local #2

Buck Buchanan, Teacher

Sue Dickenson, Representative, House District 25

Mary Fitzpatrick, Self-Employed

Gloria Flora, Sustainable Obtainable Solutions

Tim Gregori, Southern Montana Electric

Patrick Judge, Montana Environmental Information
Center

Mark Lambrecht, PPL Montana

Steve Loken, Center for Resource Building Technology

Charles McGraw, Natural Resources Defense Council

Shane Mogensen, Nance Petroleum

Gary Perry, Senator, Senate District 35

Trudi Peterson, Sustainable Cattle Rancher

Bob Raney, Public Service Commission Member

Dave Ryan, National Center for Appropriate Technology

William Walks Along, Northern Cheyenne

Members of the Scientific Advisory Panel

Susan Capalbo, Big Sky Carbon Sequestration Partnership, Montana State University

Ted Dodge, National Carbon Offset Coalition

Dan Fagre, Global Change Research Program, U.S. Geological Survey

David McGinnis, Grants and Sponsored Programs Office, Montana State University

Don Potts, College of Forestry and Conservation, University of Montana

Steve Running, Numerical Terradynamics Simulation Group, College of Forestry and Conservation, University of Montana

The Process?

- The CCAC split into 5 Technical Working Groups (TWG's) representing 4 sectors of Montana's economy
 1. Energy Supply
 2. Residential, Commercial, Institutional and Industrial
 3. Transportation and Land Use
 4. Agriculture, Forestry and Waste Management
- A 5th TWG dealt with Cross-Cutting Issues
- The CCAC met 6 times from July 2006 through July 2007 to evaluate the recommendations of the TWG's on existing programs, options and policies.
- First to be completed was an updated inventory of Montana's GHG Emissions
- The Goal of the Process was to find ways to reduce GHG emissions to 1990 levels by the year 2020

Montana GHG Inventory and Reference Case Projection
CCS, September 2007



Montana Greenhouse Gas Inventory and Reference Case Projections 1990-2020

**Center for Climate Strategies
September 2007**

Principal Authors: Alison Bailie, Stephen Roe, Holly Lindquist, Alison Jamison



Inventory Findings?

- Montana's GHG emissions from all sources accounted for 0.6% of total US GHG emissions in 2005.
- A 14% increase in GHG emissions between 1990 and 2005 moved Montana from a NET carbon sink to a NET carbon emitter.
- Our forests, cropland and rangeland provide a vast terrestrial carbon sink.
- The State now averages net emissions of ~12 million metric tons of CO₂ equivalents per year.
- Montana's rate of GHG emissions per capita is nearly double the national average

Why?

- Our large fossil fuel production industry, substantial agriculture industry, large transportation distances, cooler climate and low population base!

CCAC Recommendations?

54 Policy Recommendations Designed to Reduce Montana's GHGs to 1990 levels by the year 2020

- Some can be implemented immediately
- Some will require the support of the State Legislature
- Some will cost money to implement
- Many will save money by reducing energy needs and costs
- Additional benefits include reduced reliance on imported fossil fuels, reduced air pollution, increased opportunity for renewable fuel development, healthier forests, and the opportunity for Montana to be a leader in developing cleaner fuel technologies while sequestering GHGs

Figure EX-1. Reference case Montana consumption-based gross GHG emissions

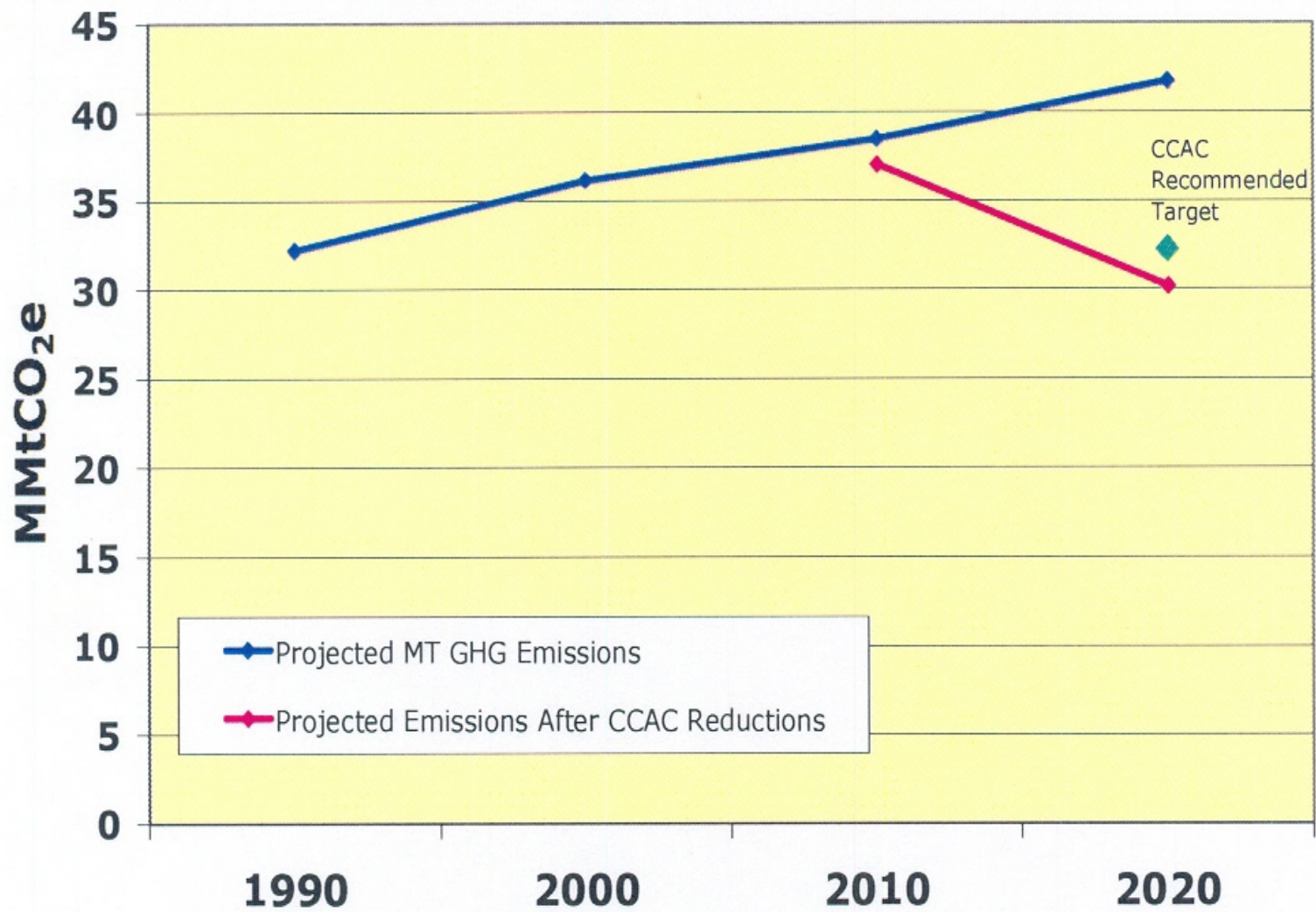


Figure EX-3. Sector shares of recommended GHG reductions

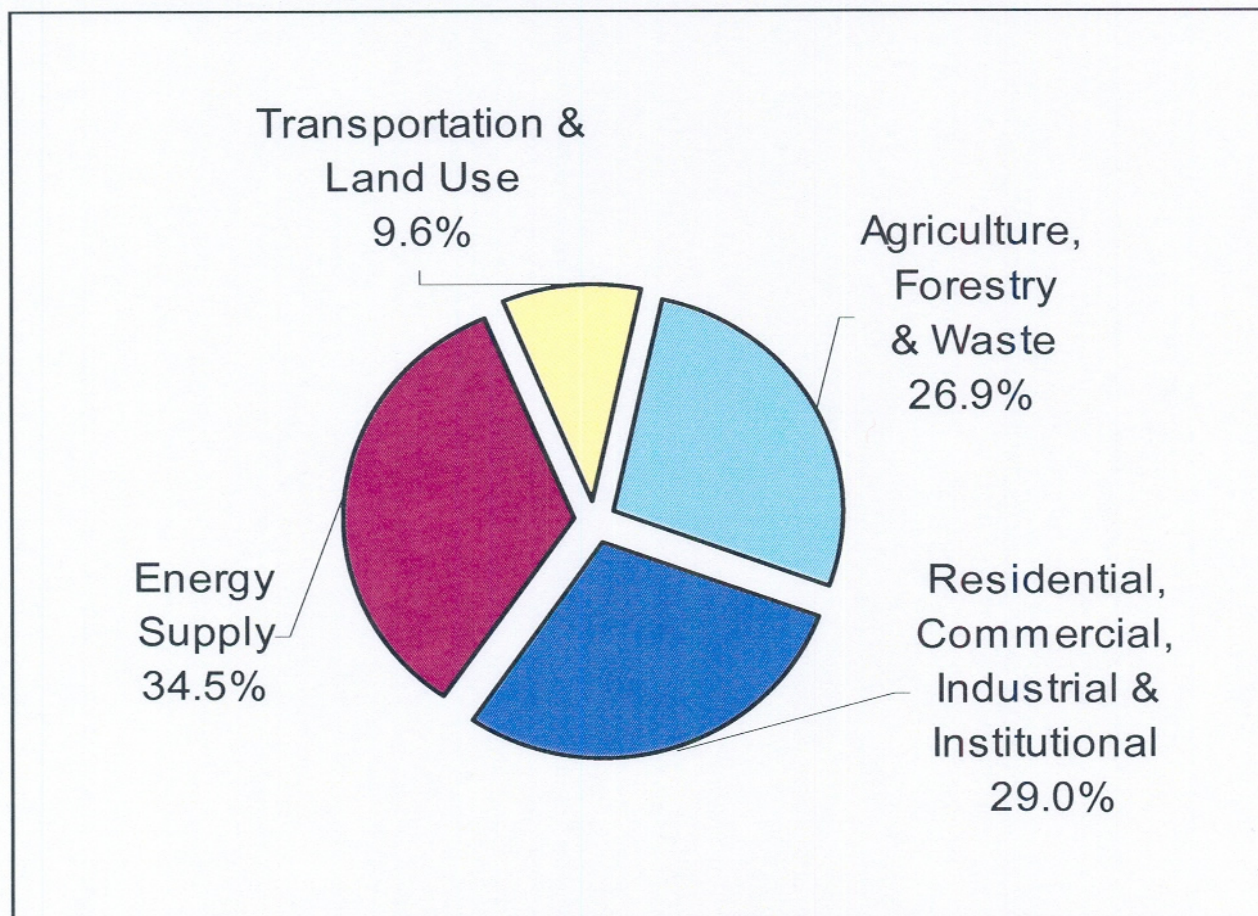


Figure EX-6. Policy recommendations ranked by cost-per-ton reduced

